Region 1 FY 2014 Invasive Control Program Proposal

Willamette Valley NWRC

Woody Vegetation Removal within Muddy Creek Floodplain Hidden Prairies, William L. Finley NWR, Corvallis, OR

Invasive Species Project Request Total $17,000

Project Description: Wet prairies exist at less than one percent of their historic occurrence in the Willamette Valley. Farmland conversion and woody plant succession have combined to make it one of the rarest plant communities in the country. Historically the floodplain of Muddy Creek through W.L. Finley NWR was a mosaic of prairie and riparian woodland/bottomland forest. With no active fire management or mechanical treatments such as mowing, many of the small patches of prairie that existed historically are becoming in-filled by trees and shrubs. However, former prairie habitat at this stage of succession can still be returned to prairie condition through woody vegetation removal, as some released prairie species can again flower and set seed prolifically.

There are current and historic records of rare and listed prairie plant species within the Muddy Creek floodplain. In addition to rare prairie plants, the wet prairies support a high diversity of invertebrates and pollinators, including a number of unique species not found elsewhere. Oregon State University survey work indicated the refuge wet prairies supported a diversity of bees equal to the combined diversity found on 10 other surveyed sites in the Valley.

Ten hidden prairies have been identified for possible treatment. The area treated for woody vegetation will range between 15-30 acres. This project would consist of three phases: Phase 1 would be access mowing followed by plant community evaluation and ranking. Phase 2 would be mechanical treatments on the highest ranked sites and continue working through the prairie parcels as far as time and funding allowed. Phase 3 would be a revisit in the growing season (spring 2015) to gauge plant community response. This project would mechanically treat all invasive woody vegetation within the degraded prairie footprint, consisting primarily of rose, hawthorne, and Oregon ash (using low ground pressure skid-steer tractor with a heavy duty rotary mower and/or tree shears). Larger trees will be removed from the prairie with minor vegetative slash left on-site to decompose.

Project Objectives: This project is supported in the WVNWRC CCP by Goal 3, Objective 3b, which states "Protect and maintain remnant disturbed wet prairie". Strategy 2 under this objective states " Use IPM measures…..to reduce, control, or eliminate invasive plants. The specific objective for this proposal is " In 2014 restore 15-30 acres of wet prairie habitat within the Muddy Creek floodplain for the benefit of native plant communities and associated wildlife primarily using mechanical treatments to reduce and remove invasive woody vegetation".

Potential for maximum control/Likelihood of success: Mechanical woody vegetation treatments are effective initially on control and removal of invading woody vegetation on

native prairies. Broad-scale herbicide treatments cannot be applied to woody vegetation because of the possible non-target impacts to other native plants including listed species. Additionally, prescribed fire (post mechanical treatment) is not feasible under most circumstances due to lack of motorized access (engines). However, without consistent maintenance mowing or periodic fire, succession would eventually result in invasion of woody species in the prairies.

Biological benefit to priority species or BIDEH: Almost ten years ago the Refuge conducted exploratory mowing into remnant prairies on the south end of the Refuge and found large populations of peacock larkspur, a FWS species of concern (W. L. Finley NWR has the largest concentration of peacock larkspur w/in its range). This project is expected to significantly benefit peacock larkspur as well as potentially several other listed prairie plants with historic occurrences in the floodplain prairies, including Bradshaw's desert parsley, Willamette daisy, and Nelson's checkermallow.

Sustainability: Mechanical woody vegetation treatments are not sustainable without follow-up treatment. Re-sprouting will occur; however because of the potential presence of rare and listed native plants, broad-scale herbicide treatments cannot be applied to re-sprouts due to possible impacts to non-target species. Some selective spot treatments may be used when prairie plants have senesced. Additionally, prescribed fire (post mechanical treatment) is not feasible under most circumstances due to lack of motorized access (engines). Annual maintenance mowing is the most likely method of sustaining and promoting the prairie structure and herbaceous plant community. Once the initial mowing and shearing is complete, follow-up treatments in successive years should be accomplished in a fraction of the time required for the first action. These treatments will become part of refuge operations, prioritized on a basis to those prairies with listed plants or the highest value plant community.

Monitoring: Monitoring will be contracted to a botanist/ecologist. In Phase 1 a botanical contractor will make a rapid assessment of prairie quality and potential, and prioritize recovery potential (H-M-L) by site. Following mechanical treatment in Phase 2, the contractor will re-evaluate the responding plant community in the spring 2015. All areas would have photo-point documentation.

Proposed Budget: Phase 1 mowing will be covered by the Refuge. Phase 2 mowing costs would be covered by the Invasives grant funds. All plant community monitoring will be covered by a contracted botanist/ecologist.

Skid-steer mower/shears w/operator (contract and/or FWS)	$8,000
Fuel	1,500
Spot herbicide treatment	500
In-house FWS expenditures (planning, layout)	3,000
Plant community monitoring (post treatment monitoring 2015)	4,000

Refuge Point of Contact: Jock Beall, Refuge Biologist or
Molly Monroe, Asst. Refuge Biologist (541)757-7236

Comment [BF1]: So would the consistent maintenance mowing occur or not?

Comment [BF2]: This, plus the information above on the rare prairies and the pollinator abundance is also good fodder for this response.

Comment [BF3]: I think this is good. Bringing in a specialist makes sense, particularly for up-front evaluation. It's tough to understand what the monitoring product will consist of.